UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,920	09/29/2000	Gary D. Zimmerman	10001745-1	8995

7590 12/13/2004	EXAMINER

Agilent Technologies
Legal Department 51UPD
Intellectual Property Administration
P O Box 58043
Santa Clara, CA 95052-8043

PHAM, THIERRY L

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/675,920	ZIMMERMAN ET AL.
	Examiner	Art Unit	
	Thierry L Pham	2624	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>*amendment filed on 8/24/04*</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>*1-18*</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>*1-18*</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to the following communication: an Amendment filed on 8/24/04.

Response to Arguments

2.   Applicant's arguments, see pages 9-10, filed on 8/24/04, with respect to the rejection(s)of claim(s) 1 and 5 under 102 (e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 5-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Young No (U.S. 6587140).

Regarding claim 5, Young No discloses an office machine (printer 5, fig. 1) comprising:

● a rendering engine (printer 5 includes print engine 50, fig. 1) for rendering images; and

● a PC card slot (PC card slot 83, fig. 1) coupled to the rendering engine (coupled using cable 76, fig. 1) for receiving a removable PC card (removable PC card 7, fig. 1) that includes a printer formatter (PC card 7 includes CPU 92 for processing print data and transmit to print engine, fig. 2, col. 4, lines 39-45), wherein the PC card slot (PC card slot 83 for receiving processed image data from PC card and transmit to print engine via cable 76, fig. 1) is utilized to transfer formatter output from the printer formatter to the rendering engine.

Regarding claim 6, Young No further discloses the office machine of claim 5 further comprising: a print engine ready data interface (cable 76, fig. 1) for coupling to a PC card and selectively receiving print engine ready data therefrom.

Regarding claim 7, Young No further discloses the office machine of claim 5 wherein the office machine is one of a laser printer, inkjet printer (inkjet printer 5, fig. 1), and all-in-one office machine.

Regarding claim 8, Young No further discloses a removable PC card (PC card 7, fig. 1) for removably coupling with corresponding card slot (printer 5 with PC slot 83, fig. 1) in an office machine comprising:
• a formatter integrated circuit (PC card includes a CPU for processing image/print data, fig. 2, col. 4, lines 39-45) for providing formatter functions; and
• a connector (connector 41, fig. 1) having a print engine ready data interface for coupling to the office machine (couple to office machine via slot 83, fig. 1) and selectively (PC card interface, fig. 3) receiving print engine ready data therefrom;
• wherein the PC card is adapted for insertion into a corresponding PC card slot (adapted to insert via slot 83, fig. 1) in the printer and wherein the formatter integrated circuit may provide formatter functions (i.e. printing instructions, col. 2, lines 25-38 and col. 39-45) to the printer when coupled thereto.

Regarding claim 9, Young No further discloses a connector (connector 41, fig. 1) having a print engine ready data interface for coupling to the host machine (couple to office machine and image system fig. 1, col. 6, lines 1-5) and selectively (PC card interface, fig. 3) receiving print engine ready data therefrom.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukamoto et al (U.S. 6801328), and in view of Young No (U.S. 6587140).

Regarding claim 1, Tsukamoto discloses a printing system (printing system, fig. 1) comprising:

• a host device (PC, fig. 1) for executing programs;

• an office machine (multi-functional facsimile, fig. 1) having a print engine (multi-functional facsimile includes recording portion 110, fig. 1) for receiving print engine ready data and based thereon for rendering images and a PC card slot (multi-functional includes a PCMCIA interface portion 114 slot, fig. 1) for receiving PC cards (printer interface card 116, fig. 1);

• a PC card (removable printer interface card 116, fig. 1) for removably coupling with the PC card slot (PCMCIA interface portion slot 114, fig. 1 and fig. 26) of the office machine and for coupling with the host device (cable connecting from printer interface card to PC, fig. 1);

Tsukamoto discloses a PC card as shown in fig. 1, but fails to explicitly teaches a PC card having a formatter integrated circuit for providing formatter functions, the formatter integrated circuit for receiving printer controller ready data from the host device and based thereon for generating print engine ready data.

Young No, in the same field of endeavor for printing system, teaches a PC card (PC card 7, fig. 1) having a formatter integrated circuit (PC card includes CPU 92 for processing image/print data, fig. 2, col. 4, lines 39-45) for providing formatter functions, the formatter integrated circuit for receiving printer controller ready data from the host device (CPU 92 receives print data from plurality of external sources such as host computer, scanner, and/or camera, col. 6, lines 1-10) and based thereon for generating print engine ready data (PC card 7 for converting received data into print ready data to be printed by printer 5, fig. 1, col. 39-45 and col. 2, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Tsukamoto as per teachings of Young by incorporating an integrated printer

controller circuit of Tsukamoto onto the PC card of Young because of a following reason: (•) to enhance the overall reliability of the imaging/printing system by reducing processing steps and components interface and reduce manufacturing costs (Young, col. 2, lines 15-18); (•) to provide more flexibility and portability to operators/users.

Therefore, it would have been obvious to combine Tsukamoto with Young to obtain the invention as specified in claim 1.

Regarding claims 16-18, Tsukamoto further teaches the removable PC card includes a form factor that is one of a form factor of the PCMCIA type I card (printer interface card 116 is PCMCIA type II, col. 4, lines 35-42), a form factor of PCMCIA type II card, and a form factor of PCMCIA type III card.

7.   Claims 2-4, 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukamoto and Young as described in claim 1 above, and in view of Benjamin et al (U.S. 6113208).

Regarding claim 2, the combinations of Tsukamoto and Young teach a PC card having a memory device for storing printer's operating program (DRAM 98, fig. 2, col. 2, lines 25-30, Young), but fail to teach printing software having an automatic update module that when executing on the host device automatically downloads to the host device from a source one of an device automatically downloads to the host device from a source one of an updated version of printer formatter firmware and the printing software.

Benjamin, in the same field of endeavor for printing, teaches wherein a printing software having an automatic update module that when executing on the host device automatically downloads (automatically downloading updated/version of printer driver via Internet/Website, col. 3, lines 50-67 to col. 4, lines 1-40) to the host device from a source one of an device automatically downloads to the host device from a source one of an updated version of printer formatter firmware and the printing software.

It would have been obvious to one of ordinary skill in the art at the time of the invention wad made to modify Tsukamoto and Young as per teachings of Benjamin because of a following

reason: (1) downloading and installing the latest/newest compatible printer driver will improve operating efficiency of the printer.

Therefore, it would have been obvious to combine Tsukamoto and Young with Benjamin to obtain the invention as specified in claim 2.

Regarding claim 3, Benjamin further teaches the printing system of claim 2, wherein the source is one of a web server (Internet web server, col. 3, lines 50-67 to col. 4, lines 1-40) and a computer readable medium.

Regarding claim 4, Benjamin further teaches the printing system of claim 2 wherein the automatic update module when executing on the host device automatically downloads (automatically downloading updated/version of printer driver via Internet/Website, col. 3, lines 50-67 to col. 4, lines 1-40) to the printer formatter an updated version of printer formatter firmware.

Regarding 10, the combinations of Tsukamoto and Young teach a printing system that includes an office machine having a print engine and a slot of receiving a PC card, a PC card for removably coupling to the office machine, the PC card having a printer formatter and a memory for storing a printer formatter program, a host having a printing software, the method comprising: determining whether the PC card (fig. 3, Tsukamoto) has been operationally coupled to the slot of the office machine.

However, the combinations fail to teach when it is determined that the PC card has been operationally coupled to the office machine, then determining whether the printer formatter program is loaded in the memory of the printer formatter, (c) when it is determined that the printer formatter program is loaded in the memory, then determining whether the printer controller program is valid; otherwise, loading the printer formatter program into the memory and repeating step (c), (d) when it is determined that the printer formatter program is valid, then determining whether the printer formatter program is compatible with the print engine, the printing software and printer formatter, (e) when it is that the printer formatter program is

loaded, valid, and compatible with the print engine, the printing software and printer formatter, then sending data from the to be printed to the printer formatter.

Benjamin, in the same field of endeavor for printing system, teaches (c) when it is determined that the printer formatter program is loaded in the memory, then determining whether the printer controller program is valid (determine whether the printer driver is current and updated, fig. 4, col. 2, lines 15-30); otherwise, loading the printer formatter program into the memory and repeating step (c), (d) when it is determined that the printer formatter program is valid, then determining whether the printer formatter program is compatible with the print engine (determine whether the stored programs is valid and compatible with the printer, fig. 4, col. 2, lines 15-30 and col. 3, lines 50-65), the printing software and printer formatter, (e) when it is that the printer formatter program is loaded, valid, and compatible with the print engine, the printing software and printer formatter, then sending data to be printed to the printer formatter (if determine that printer program is valid, then normal printing is carried out, if not, notifying users of newer/updated version of printer program available and can be downloaded via the Internet, col. 3-4 or can be automatically downloaded newer/updated version of printer programs).

It would have been obvious to one of ordinary skill in the art at the time of the invention wad made to modify Tsukamoto and Young as per teachings of Benjamin because of a following reason: (1) downloading and installing the latest/newest compatible printer driver will improve operating efficiency of the printer; (2) to enhance the overall reliability of the imaging/printing system by reducing processing steps and components interface and reduce manufacturing costs (Young, col. 2, lines 15-18); (3) provide more flexibility and portability to operators/users.

Therefore, it would have been obvious to combine Tsukamoto and Young with Benjamin to obtain the invention as specified in claim 10.

Regarding claim 11, Benjamin further teaches when the printer controller program is one of not loaded, invalid, and incompatible, then notifying a user of the incompatibility (determine whether the current stored programs is valid and compatible, cols. 3-4).

Regarding claim 12, Benjamin further discloses when the printer controller program is one of not loaded, invalid, and incompatible, then downloading the printer controller program to the memory (downloading new/updated version of printer program, cols. 3-4, fig. 4).

Regarding claims 13-14, Benjamin further discloses downloading the printer controller program to the printer controller further comprises: downloading the printer controller program from the host to the memory (downloading from manufacture's server and website, cols. 3-4).

8.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukamoto, Young, and Benjamin as described in claim 10 above, and further in view of Austin (U.S. 6665089).

The combinations of Tsukamoto, Young, and Benjamin as described in claims 10-14 above do not explicitly teach wherein the step of determining whether the printer controller program is valid further comprises: performing a cyclic redundancy check on the printer controller program.

Austin, in the same field of endeavor for printing, teaches the step of determining whether the printer controller program is valid further comprises: performing a cyclic redundancy check (Fig. 18, col. 12, lines 60-67 to col. 13, lines 1-30) on the printer controller program.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Tsukamoto, Young, and Benjamin as per teachings of Austin because of a following reason: (1) an additional method of testing (CRC checking method) increase the flexibility of testing the printer controller programs to provide an accurate results.

Therefore, it would have been obvious to combine Tsukamoto, Young, and Benjamin with Austin to obtain the invention as specified in claim 15.

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L Pham whose telephone number is (703) 305-1897. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thierry L. Pham

GABRIEL GARCIA
PRIMARY EXAMINER